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## NOTICE OF ALLOWANCE AND FEE(S) DUE

60429 7590 06/10/2009

CAMPBELL STEPHENSON LLP  
11401 CENTURY OAKS TERRACE  
BLDG. H, SUITE 205  
AUSTIN, TX 78758

EXAMINER

FLURANTIN, JEAN B

ART UNIT

PAPER NUMBER

2162

DATE MAILED: 06/10/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,657	03/01/2004	Anand A. Kokre	VRT0124US	9558

TITLE OF INVENTION: EFFICIENT OPERATIONS USING ASSISTANCE FROM SECONDARY SITE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	09/10/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** **Mail** **Mail Stop ISSUE FEE**  
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**P.O. Box 1450**  
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**or Fax** **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

60420 7590 06/10/2009  
**CAMPBELL STEPHENSON LLP**  
**11401 CENTURY OAKS TERRACE**  
**BLDG. H, SUITE 250**  
**AUSTIN, TX 78758**

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10790.657

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Anand A. Kokre

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**TITLE OF INVENTION: EFFICIENT OPERATIONS USING ASSISTANCE FROM SECONDARY SITE**

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	09/10/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
FLEURANTIN, JEAN B	2162	701-201000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/790,657	03/01/2004	Anand A. Kekre	VRT0124US	9558
60429	7590	06/10/2009	EXAMINER	
CAMPBELL STEPHENSON LLP 11401 CENTURY OAKS TERRACE BLDG. H, SUITE 250 AUSTIN, TX 78758			FLEURANTIN, JEAN B	
			ART UNIT	PAPER NUMBER
			2162	
DATE MAILED: 06/10/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 662 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 662 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

# Notice of Allowability

## Application No.

10/790,657

## Examiner

JEAN B. FLEURANTIN

## Applicant(s)

KEKRE ET AL.

## Art Unit

2162

### - The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/04/2009.
2. ☒ The allowed claim(s) is/are 1-21,23,24,26,27,30 and 32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/Jean B. Fleurantin/  
Primary Examiner, Art Unit 2162

**DETAILED ACTION**

1. This is in response to communication on 06/04/2009.
2. The following is the status of claims:  
Claim 32 has been added. The Examiner discusses the newly added claim set forth in sections 4 and 5.  
Claims 22, 25, 28, 29, and 31 are cancelled.  
Claims 1-21, 23-24, 26, 27, 30 and 32 remain pending for examination.

***Response to Arguments***

3. Applicant's arguments, filed on 03/17/2009 and 06/04/2009, with respect to the pending claims have been fully considered and are persuasive, as a result, the amendment to the claims overcome the rejection. Therefore, the rejection of the last Office action has been withdrawn.

***EXAMINER'S AMENDMENT***

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Shawn Doman (Reg. No. 60,362) on June 02, 2009.

The application has been amended as follow:

In the claims,

Cancel

Claims 22, 25, 28 and 29

Add New

Claim 32

Art Unit: 2162

Replace the old versions of claim 13 to new versions

Claim 13

A computer readable storage medium storing instructions executable by a computer system to perform a method, wherein

the computer system is contained in a first secondary node in data communication with a primary node,

the primary node comprises a first server and stores a data volume,

the first secondary node comprises a second server a first replica of the data volume, and

the method comprises:

receiving modified data of the data volume from the primary node;

overwriting data of the first replica with the modified data;

processing the modified data to generate processed data;

the first secondary node transmitting the processed data to the primary node;

the primary node receiving and transmitting the processed data to a second secondary node,

wherein the second secondary node comprises a second replica of the data volume and

the second secondary node comprises a third server; and

the second secondary node receiving and storing the processed data in memory.

Replace the old versions of claim 15 to new versions

Claim 15

A computer readable storage medium of claim 14 wherein the method further comprises storing instructions executable by a computer system to perform a method, wherein the computer system is contained in a first secondary node in data communication with a primary node.

the primary node comprises a data volume.

the first secondary node comprises a first replica of the data volume, and

the method comprises:

receiving modified data of the data volume from the primary node;

overwriting data of the first replica with the modified data;

processing the modified data to generate processed data, wherein the modified data is processed according to a data compression algorithm;

the first secondary node transmitting the processed data to the primary node;

reading data from the first replica;

processing the modified data and the data read from the first replica according to the data compression algorithm to generate the processed data.



Replace the old versions of claim 17 to new versions

Claim 17

A computer readable storage medium of claim 16 wherein the method further comprises:  
storing instructions executable by a computer system to perform a method, wherein  
the computer system is contained in a first secondary node in data communication with a primary  
node,  
the primary node comprises a data volume,  
the first secondary node comprises a first replica of the data volume, and  
the method comprises:  
receiving modified data of the data volume from the primary node;  
overwriting data of the first replica with the modified data;  
processing the modified data to generate processed data, wherein the modified data is  
processed according to a checksum algorithm;  
the first secondary node transmitting the processed data to the primary node;  
reading data from the first replica;  
processing the modified data and the data read from the first replica according to the  
checksum algorithm to generate the processed data.

Replace the old versions of claim 18 to new versions

Claim 18

A computer readable storage medium ~~of claim 13~~ storing instructions executable by a computer system to perform a method, wherein

the computer system is contained in a first secondary node in data communication with a primary node,

the primary node comprises a data volume,

the first secondary node comprises a first replica of the data volume, and

the method comprises:

receiving modified data of the data volume from the primary node;

overwriting data of the first replica with the modified data;

processing the modified data to generate processed data, wherein the modified data is processed according to a data encryption algorithm; and

the first secondary node transmitting the processed data to the primary node.

Replace the old versions of claim 20 to new versions

Claim 20

A computer readable storage medium of claim 19 wherein the method further comprises:  
storing instructions executable by a computer system to perform a method, wherein  
the computer system is contained in a first secondary node in data communication with a primary  
node,  
the primary node comprises a data volume,  
the first secondary node comprises a first replica of the data volume, and  
the method comprises:  
receiving modified data of the data volume from the primary node;  
overwriting data of the first replica with the modified data;  
processing the modified data to generate processed data, wherein the modified data is  
processed according to a difference computation algorithm;  
the first secondary node transmitting the processed data to the primary node;  
reading data from the first replica;  
processing the modified data and the data read from the first replica according to the  
difference computation to generate the processed data.

Art Unit: 2162

Replace the old versions of claim 24 to new versions

Claim 24

A method comprising:

modifying data of a data volume to create modified data;

a primary node, comprising a first server, transmitting the modified data to a first secondary node,  
wherein the first secondary node comprises a first replica of the data volume and the first  
secondary node comprises a second server;

the first secondary node receiving and processing the modified data to generate processed data,  
wherein processing data includes counting the number of transactions generated to write  
data to a hard disk allocated to store data of the data volume replica in a given period of  
time;

transmitting the processed data to the primary node, wherein the primary node comprises the  
data volume;

storing the processed data in memory.

Replace the old versions of claim 26 to new versions

Claim 26

The method of claim 24 wherein the ~~first~~ data volume comprises a file system.

Replace the old versions of claim 27 to new versions

Claim 27

The method of claim 24 wherein the ~~first~~ data volume comprises a database.

Replace the old versions of claim 30 to new versions

Claim 30

The method of claim [[25]] 24, wherein processing data includes defragmenting a replicated file, and wherein the results comprise an allocation of one or logical memory blocks of the data volume replica to the replicated file.

**Add New Claim 32**

A method comprising:

modifying data of a data volume to create modified data;

a primary node, comprising a first server, transmitting the modified data to a first secondary node,

wherein the first secondary node comprises a first replica of the data volume and the first secondary node comprises a second server;

the first secondary node receiving and processing the modified data to generate processed data,

wherein processing data includes identifying the number of times an access time stamp changes in a given period of time;

transmitting the processed data to the primary node,

wherein the primary node comprises the data volume;

storing the processed data in memory.

### REASONS FOR ALLOWANCE

5. With respect to claims 1-21, 23-24, 26, 27, 30 and 32 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

With respect to the independent claims 1, 13, 15, 17, 18, 20 and 23, the claimed features "wherein the first secondary node comprises a first replica of the data volume and the first secondary node comprises a second server; the first secondary node receiving and processing the modified data to generate processed data" in conjunction with other elements of the independent claims are not suggested, anticipated or found to be obvious over the prior art made of record. With respect to the independent claims 24 and 32, the claimed features "wherein the first secondary node comprises a first replica of the data volume and the first secondary node comprises a second server; the first secondary node receiving and processing the modified data to generate processed data, wherein processing data includes counting the number of transactions generated to write data to a hard disk allocated to store data of the data volume replica in a given period of time" in conjunction with other elements of the independent claims are not suggested, anticipated or found to be obvious over the prior art made of record.

The dependent claims, being definite, further limiting, and fully enabled by the specification are also allowed.

The closest prior art, Yanai et al., USPT No. 5,742,792 relates to a system and method for automatically providing and maintaining a copy or mirror of data stored at a location geographically remote from the main or primary data storage device.

Kiselev, USPT No. 7,149,858 relates to maintain up-to-date, consistent backup copies of primary data that are immune to corruption even when security of the primary data is breached but fails to teach the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2162

**CONTACT INFORMATION**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is (571)272-4035. The examiner can normally be reached on 10:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E. BREENE can be reached on 571 - 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B. Fleurantin/  
Primary Examiner, Art Unit 2162